

Evaluation of Touchable Sound

an Arts and Dementia Project



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Contents

Executive Summary	5
Introduction	7
An overview of dementia in Australia.....	10
What does the literature tell us about creative approaches for people with dementia?	11
About the Touchable Sound project	14
Evaluation findings.....	16
Next steps for Touchable Sound	29
Conclusion	31
References	33

Attachments

Attachment 1: Evaluation Framework

Attachment 2: Observation checklist for Touchable Sound Workshops (Pilot Version)

Attachment 3: Current Creative Expression and Social Interaction Projects for People with Dementia or Comparable Conditions

Executive Summary

Touchable Sound is a participatory arts project designed for people with dementia. Facilitated Touchable Sound workshops engage participants in creating music using technology powered by their own touch. The aim of the Touchable Sound project is to enhance the wellbeing of people with dementia and their families/carers and reduce social isolation.

The impetus for Touchable Sound came from observing the high levels of enjoyment and delight experienced by people with dementia and their carers engaged in previous creative sound-and-touch projects run by Maroondah City Council. Workshops for people with dementia and their carers utilised unique interactive 'playable' temporary wall murals that made sound when touched. The responses of the workshop participants revealed the potential of this simple technology to create captivating and transformative experiences.

The project is a partnership between Maroondah City Council's Arts and Cultural Development and Aged and Disability Services teams and digital arts company Playable Streets, informed by research and evaluation. Local community and residential services for people with dementia have participated in pilot workshops.

The pilot project included research, testing and evaluation:

- Initial workshops exploring the technology with people with dementia and their carers took place in 2017-2018. Council funded the pilot project based on the positive results.
- A literature survey into existing relevant research, projects and initiatives.
- An action research approach to exploring the use and accessibility of interactive sound technology to improve the wellbeing of people with dementia, their families and carers. An observation checklist was developed to assess participation and observable impacts on individuals and the group.
- Playable Streets ran six workshops in late 2019 testing prototypes of the technology in community and residential settings with group sizes ranging from ten to twenty participants and a total of 57 participants.
- The workshops and codesign process were evaluated with very encouraging results.

The initial evaluation results have demonstrated the potential for the technology to have a positive impact on people with dementia. Positive outcomes include:

- A high level of engagement, animation and enjoyment by participants and groups observed by workshop facilitators. Strikingly, participants who were withdrawn, non-verbal and/or physically limited participated and responded with obvious, observable enjoyment. For other participants, the experience sparked interesting conversations about the technology, about their musical preferences or the musical instruments they used to play. Groups were energised and engaged.
- Staff from community-based settings and from aged care residential settings validated the observations of the group engagement and animation. Staff also noted that the positive effects and elevated mood of the groups lasted well after each session had finished. After one workshop, for example, staff reported that group members spent the rest of the afternoon discussing music and had an impromptu jam session.

The next steps anticipated for the project include:

- Engaging with research, community and industry partners with shared interests in the aims of the project.
- Working with an industrial designer and using a codesign process with participants to refine the interactive components of the model.
- Continuing to explore the role of touch, technology and interaction in the creation of music and in fostering social connections between people with dementia in a range of settings.
- Exploring and evaluating the impacts for families and carers participating in Touchable Sound activities.



‘It’s just about inclusion and joy and that’s breathtakingly refreshing.’

Program Manager, Aged and Disability Services
Maroondah Council

Introduction

Touchable Sound: an Arts and Dementia project is a co-design, participatory arts project which aims to improve the wellbeing of people with dementia and their carers. This report presents the results of the evaluation of the 'Touchable Sound' project.

Project overview

The Touchable Sound project was developed through a partnership between the Maroondah City Council's Arts and Cultural Development and Aged and Disability Services teams, working with digital arts company, Playable Streets.

The project was run as a pilot which commenced in late 2018 and concluded in June 2020.

Through a cross-disciplinary approach bringing together the arts and aged care teams of council, the aim of the project was to improve the wellbeing of people with dementia and their carers, through participation in an interactive, digital arts project exploring touch, sound and creative play.

The objectives of the project were to:

- Establish a successful approach and resources to support arts and dementia activity that has social and mental health benefits for participants and their carers.
- Demonstrate a model of collaboration and co-design between the disciplines of arts, aged and disability care, that offers Maroondah Council, local government and the arts, aged and disability care sectors generally, new ways of working to address social issues.
- Explore and document technological innovations that have wider application for engagement with vulnerable communities.
- Help inform the development of further opportunities for developing creative arts approaches and resources addressing community priority needs.

Project partnership

The Touchable Sound project was self-funded by Maroondah City Council and delivered by a partnership comprising:

- the Arts and Cultural Development team. This team leads arts and cultural development in Maroondah, including participatory arts projects. The team had prior experience delivering community digital arts projects with Playable Streets.
- The Aged and Disability Services team which included representatives with specialist expertise in working with people with dementia and/or with sensory, physical or cognitive limitations.
- Playable Streets, a digital arts company which specialises in developing immersive, interactive arts experiences exploring the intersection of music, technology, art and design. Team members include multi-disciplinary and inter-disciplinary practitioners with expertise in community engagement, performance, composition, software development and videography.

Project background

The impetus for Touchable Sound came from observing how successfully people with dementia and their carers were engaged in two creative sound-and-touch projects presented at Realm ArtSpace in Maroondah by Playable Streets 'In Touch' (2016) and 'Sounding Stories' (2017). These projects installed unique interactive 'playable' temporary wall murals that made sound when touched.

Workshops for people with dementia and their carers during the projects revealed the potential of this simple technology to create captivating and

transformative experiences of sound through the power of touch.

Specifically recognising the potential of this approach to be further developed for the benefit of people with dementia and their carers, the Touchable Sound Working Group was formed to guide the development of the project. The working group comprised representatives from Maroondah City Council's Aged and Disability and Arts and Cultural Development teams and Playable Streets.

Project evaluation

Effective Change Pty Ltd was engaged by Maroondah City Council to undertake the Touchable Sound research and evaluation project.

Research tasks

To enhance the background research and provide a strong theoretical and practical framework for the pilot project, the brief included the conduct of a literature review and investigation of potential partners and/or funding sources.

The literature review examined:

- How people with dementia (or comparable conditions) connect creatively through social and participatory arts activities using sound and visual cues/dimensions.
- The potential of digital technology to adapt participatory arts approaches to groups with special needs.
- The sustainability and replication of participatory arts approaches in social/community settings by non-arts facilitators.
- Current national and international projects which provide opportunities for creative expression and social interaction for people with dementia or other related conditions.

Evaluation approach and scope

The evaluation has been undertaken using a developmental approach. This approach is suited to projects or programs still being developed, such as *Touchable Sound*. A conventional formative or

summative evaluation approach to a pilot program can miss innovations and unexpected outcomes and more importantly, overlook the significance of the learning and adaptations explored during the development.

The advantage of developmental evaluation is that the evaluator works alongside the implementation of the project/program and supports the gathering and interpreting of data, framing issues and testing developments. The evaluator has an active role:

- asking evaluative questions that can expose implicit assumptions
- applying evaluation logic
- gathering real-time data to inform ongoing decision making and adaptations
- helping navigate uncertainty and foster relationship building
- facilitating systematic, data-based reflection and decision making and “learning by doing” (Patton, 2011).

Evaluation framework

An evaluation framework and methodology was developed to evaluate:

- the Touchable Sound approach and benefits
- the project's model of collaboration and co-design to address social issues.

The key questions guiding the evaluation were:

- To what extent were the project objectives achieved?
- Were there any unexpected or unintended outcomes?
- What are the key lessons for the arts and aged and disability sectors from this approach?

The evaluation framework is included as Attachment 1.

Evaluation methods

In keeping with the developmental evaluation approach, the evaluator participated in the Touchable Sound Working Group, attending ten Working Group meetings held during the project.

Observation of Touchable Sound workshops was the key method used to evaluate the Touchable

Sound approach. To support the systematic and objective collection of observations, a checklist was developed of possible, observable signs of individual and group positive or negative responses to the activity. The checklist evolved over the pilot sessions. The final pilot Touchable Sound Observation Checklist is included as Attachment 2. When there were larger groups of participants, observers were allocated an even number of participants, so that individual responses could be observed. Observations from all observers were collated and analysed by the evaluator.

The evaluation also included:

- a desktop review of project background information
- collection of qualitative feedback from staff at community and residential aged care providers participating in Touchable Sound workshops
- debriefs and discussions with the Touchable Sound Working Group
- interviews with individual members of the Touchable Sound Working Group.

Report

This report, prepared by Effective Change Pty Ltd, provides the results of the evaluation. The report commences with an overview of the prevalence and impacts of dementia in Australia. It then presents a summary of the literature review and an overview of Touchable Sound – what it is and how it was developed. The report finishes with a discussion on the potential next steps for the project following the conclusion of the pilot.

An overview of dementia in Australia

The prevalence of dementia and the impacts of dementia – on individuals, families, communities and the economy - are not always well known. The following key facts and statistics from Dementia Australia provide a contemporary snapshot about dementia in Australia.

Firstly – what is dementia?

‘Dementia’ is the term used to describe the symptoms of a large group of illnesses which cause a progressive decline in a person’s functioning. It is a broad term used to describe a loss of memory, intellect, rationality, social skills and physical functioning. There are many types of dementia including Alzheimer’s disease, vascular dementia, frontotemporal dementia and Lewy body disease. Dementia can happen to anybody, but it is more common after the age of 65.

Australian statistics

- Dementia is the second leading cause of death of Australians. [1]
- In 2016 dementia became the leading cause of death of Australian women, surpassing heart disease which has been the leading cause of death for both men and women since the early 20th century. [1]
- Females account for 64.5% of all dementia related deaths [2]
- In 2020, an estimated 459,000 Australians are living with dementia [3]
- Without a medical breakthrough, the number of people with dementia is expected to increase to 590,000 by 2028 and 1,076,000 by 2058 [3]
- Currently an estimated 250 people are joining the population with dementia each day. The number of new cases of dementia will increase to 318 people per day by 2025 and more than 650 people by 2056 [2]
- Three in 10 people over 85 years and almost one in 10 people over 65 have dementia [2]

- In 2020, there were an estimated 27,800 people with younger onset dementia, expected to rise to 29,350 people by 2028 and 41,250 people by 2058 [3]
- In 2020, it is estimated that almost 1.6 million people in Australia are involved in the care of someone living with dementia [4]

The impact of dementia in Australia

- By 2025, the total cost of dementia is predicted to increase to more than \$18.7 billion in today’s dollars, and by 2056, to more than \$36.8 billion [2]
- Dementia is the single greatest cause of disability in older Australians (aged 65 years or older) and the third leading cause of disability burden overall [5]
- People with dementia account for 52% of all residents in residential aged care facilities [2]

References:

1. Australian Bureau of Statistics (2018) Causes of Death, Australia, 2017 (cat. No. 3303.0)
2. The National Centre for Social and Economic Modelling NATSEM (2016) Economic Cost of Dementia in Australia 2016–2056
3. Dementia Australia (2018) Dementia Prevalence Data 2018–2058, commissioned research undertaken by NATSEM, University of Canberra
4. Based on Dementia Australia’s analysis of the following publications – M. Kostas et al. (2017) National Aged Care Workforce Census and Survey – The Aged Care Workforce, 2016, Department of Health; Dementia Australia (2018) Dementia Prevalence Data 2018–2058, commissioned research undertaken by NATSEM, University of Canberra; Alzheimer’s Disease International and Karolinska Institute (2018), Global estimates of informal care, Alzheimer’s Disease International; Access Economics (2010) Caring Places: planning for aged care and dementia 2010–2050
5. Australian Institute of Health and Welfare (2012) Dementia in Australia

What does the literature tell us about creative approaches for people with dementia?

To inform the development of Touchable Sound, a literature review, summarised in this section, was undertaken to identify practical lessons around projects and initiatives using interactive, sensory, socially-engaging, creative approaches and models for people living with dementia and their carers.

The proportion of Australians with dementia and related conditions is growing and is predicted to exponentially increase in the next decade (Dementia Australia, n.d.).

Designing, testing and trialing different methods to encourage creative expression and social interaction is important in the face of this demographic change. To do this well, it is important to understand how people with dementia connect creatively through social and participatory arts activities, what works well and how programs can be sustained and replicated. An overview of the creative expression and social interaction interventions for people living with dementia reviewed is provided in Attachment 2.

Creative connection through social and participatory arts activities

Musical memory is often resistant to the cognitive decline associated with dementia and other related cognitive impairments. Opportunities for creative connection are possible because of the protection of these areas of the brain in the face of cognitive decline. People with advanced dementia who may not be able to use language can respond to music and lyrics, along with physical touch and pictures.

Many studies have found benefits of music and dance for reducing anxiety and evidence of their benefits for depression. These results may reflect the immersive nature of music which can lead to enhanced mindfulness and fewer intrusive thoughts. The arts have also been found to reduce apathy and improve well-being and quality of life. (Fancourt & Finn, 2019)

Research has examined how people with dementia engage and can be engaged creatively, in a wide variety of sensory activities (touch, visual, auditory or kinesthetic) to encourage social interaction,

improve quality of life and provide therapeutic benefits. Arts and drama classes have been found to reduce aggression, agitation and behavioural problems (Fancourt & Finn, 2019). The Interactive Music Systems study detailed how people with dementia and their carers were directly involved in designing a technology for them, including problem definition, user-testing, prototype review and evaluation (Muller-Rakow & Flechtner, 2017).

An international review of the psychological, social and emotional benefits of music activities for people living with dementia found four key benefits:

1. Taking part: Music was viewed as an accessible medium. The ability to take part was not determined by cognitive abilities or previous music training and was enjoyed on an emotional and sensory level rather than an intellectual level with people at all stages of dementia. People with dementia were able to share in the experience as equals to those who did not live with the condition.
2. Being connected: 'Musicking' – engaging with music as a creative activity – enhanced connection on a level that did not require words between people with dementia and their spouses, other family members, care staff, music therapists and the environment in which the activity took place.
3. Affirming identity: People with dementia were able to express musical preferences, verbally or non-verbally, and also developed new musical tastes and preferences across times.
4. Immersion in the moment: People with dementia appeared absorbed in the musical activity to the extent that they were 'lost in its hearing' appearing happier, more alive and less agitated (Dowlen et al, 2018)

In Australia, there has been and is currently investment in multidisciplinary efforts in research and the arts to provide opportunities for creative expression for people with dementia. For example:

- The Art and Dementia program at the National Gallery of Australia (NGA) involved offering artwork tours for people with dementia, who could tour a curated portfolio of works aiming to stimulate memories and facilitate opportunities for discussion among the group to support social inclusion (NGA, 2019).
- In Victoria, Bayside Gallery has adopted a similar program along with the Museum of Contemporary Art, called Connections (Bayside City Council, n.d.).

Ultimately, these participatory community-based arts engagement offerings are focussed on increasing connection for people living with dementia to the outside world, including others who also live with dementia. The evaluation of the Art and Dementia program illustrated that the value of these programs is that they create an environment where participants can freely participate and ‘...promote normal higher level activities for people with dementia.’ (MacPherson et al, 2009:751)

Common elements across programs

1. Active interventions, that directly involve the participants in the intervention, are more effective than passive interventions.

‘Direct involvement’ may be responding to viewing an art form, contributing to the development of a story, or in the design and development of an interactive music system or other options.

Active interventions don’t always require the participant to communicate in a group setting - they can be ‘active’ in isolation, for instance playing an instrument, or responding to one-on-one physical contact. However, it is the active component of the intervention that encourages social interaction and generates benefits associated with social inclusion. Active engagement with music and music listening have been found to reduce agitation (eg. repetitive acts, wandering, restlessness and aggressive

behaviours) and behavioural problems in people with dementia (Fancourt & Finn, 2019).

2. The need for the facilitator or the person designing the intervention to know the characteristics of the target group, and ideally the individual characteristics of participants.

The effects of creative expression and social interaction projects are greater when the art (music, sound, story) is familiar and personally resonates with the participants. This finding reinforces the importance of involving people with dementia in the design of interventions/programs, where they can be co-creators, and gain benefits from the design process and from the resulting product.

3. The effects of interventions are quite variable, and in cases where effects are observed they are usually immediate, and either not maintained or maintained over a short period post intervention.

Researchers and practitioners identified that the short term or fleeting effects should not be a reason for not pursuing, funding or designing interventions. Rather, therapeutic gains and overall effectiveness of creative expression and social interaction projects for people with dementia and comparable conditions need to be considered within the context of what a reasonable effect may look like. An international review of music activities found that the positive impact that musicking had on the person with dementia ‘in the moment’ was seen as being as important as any long-term effects on sociability and mood (Dowlen et al, 2018).

Digital technology considerations

Common considerations raised in the literature relating to music interventions included:

- the hearing ability of participants
- physical ease of use
- aesthetic design
- ensuring that the person with dementia, is cognitively able to learn how to use the item with little assistance and ideally, able to operate the system themselves
- multisensory design, which ensures that people with dementia of varying severity can engage. For instance, a non-communicative person with

dementia may be able to engage through touching and moving objects or moving instruments to create sound.

Sustaining and replicating participatory arts approaches

Interestingly, most reviewed interventions illustrated a high-level of sustainability and replicability in community settings. Reviewed interventions were inexpensive, most were not required to be delivered by a clinician or health professional and were non-sensitive to a specific setting.

The key 'sustainability' factor was 'time', ie. investing and allowing for the time required to implement the interventions, particularly those that required extensive tailoring to the individual preferences and characteristics of the participants. The facilitators from Art and Dementia, and Connections, for example, discussed how they needed to learn to read body language and facial expressions that were unique to the program participants, and by developing this understanding they were able to respond to how each individual participant experienced the art.

Further, consistent facilitators of interventions contributed to greater effects of the interventions.

Program design and implementation

Planning, resourcing and implementation of creative expression and participatory arts interventions and programs need to consider:

- the investment of facilitators' time and personal engagement of participants
- gathering information prior to the program to ensure that the characteristics and preferences of participants are available for program planning and design phases
- matching program content (art, music, sound, touch) to the preferences of participants (which may be influenced by age, culture and ethnicity)

- the environment (lighting, calmness). Some reviewed programs and interventions altered the physical environment, for the purposes of calming people with dementia who can often be overstimulated.

Guidelines for skilled facilitation are useful for ensuring that sessions are carefully planned, structured and can be repeated. Carers can play a role in guiding program designers and facilitators in the interpretation and analysis of contributions from people with dementia, as it can be easy to overanalyse or misinterpret responses from participants.

The evaluators of the Art and Dementia program found that the most important consideration in the design and implementation of creative expression and social interaction programs is to convey and embody a culture of respect for the intellect of people with dementia, regardless of their degree of cognitive decline.

Conclusions

The literature review found that there is clearly value in supporting programs and interventions that enable creative expression and social interaction for people with dementia and other comparable conditions, with some reductions in anxiety, stress, pain and increased quality of life observed for people with dementia, irrespective of their degree of severity.

The benefits for the participants have flow-on effects for their carers and family members, several interventions resulted in participants recalling autobiographical memories which offered a rich opportunity for re-engagement and communication with family members. While this was usually immediate and not usually maintained, the effects on family members and carers was sustained and is important for their wellbeing.

Social interaction, whether between a participant and their carer, or between a participant and other people with dementia was also an important benefit that can result from creative expression in an active, or participatory, manner.

About the Touchable Sound project

Touchable Sound: Workshops

What is Touchable Sound?

Touchable Sound is a creative, group-based participatory project. It involves a device, specially designed and developed by Playable Sounds, programmed with a collection of music and sounds. The device uses technology to create sound when a circuit is formed, created by two people touching the device and each other's hands, which then triggers programmed sounds and music to play. The person 'playing' the sounds can control the rhythm and sounds. The circuit can be created by two people, or it can be created by a group of people all holding hands.

Touchable Sound does not require the participant to have any skills in, or knowledge of, playing a musical instrument.

Who is the target population?

People living with dementia are the primary target group for Touchable Sound. By providing a meaningful, creative and engaging activity for people with dementia, their family members and carers are a secondary target group to benefit from the project.

What does a Touchable Sound workshop involve?

Touchable Sound workshops are designed for groups of people with dementia, either in residential aged care or community-based services providing group-based activities for people with dementia. Two Touchable Sound staff facilitate the session and look after the technical elements.

Operational Guidelines have been developed to guide services to independently facilitate sessions. The guidelines include information on the background to the project, how the device works and how to use it, and how to run a single session or a series of sessions. The guidelines include tips for observing participants and a feedback survey.



Touchable Sound: Background research and development

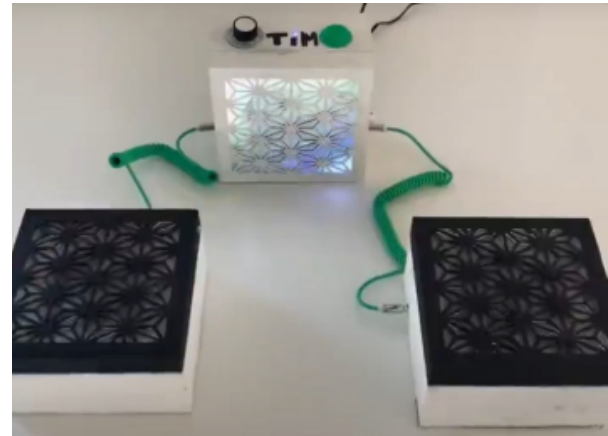
The Touchable Sound project commenced with a research and development phase. The key themes from the literature review were examined to inform the design of the device prototype and the Touchable Sound workshops. These included:

- Exploring whether *creating* music has a similar or greater benefit for people with dementia than *listening* to music. It was postulated that *'those who cannot use language could possibly use music as a communication tool, using the back and forth of musical improvisation that is often seen as a language in itself.'*
- Programming the device with the sounds of familiar instruments such as guitar and piano to give people the feeling of playing those instruments again and connecting to their past experiences of playing music.
- Designing a prototype device that is simple to use, with a longer-term aim of developing a device which could be produced for wider distribution across the Aged Care sector.
- Designing a device that was usable for people with limited hearing ability.
- Considering integrating discussions with workshop participants about their musical memories, experiences and preferences.
- Active creative and sensory interventions were found to be more effective for people living with dementia than passive activities. As the act of creating a circuit through touch is the basis of Touchable Sound, the artists posited that this may effectively *'turn the participants themselves into 'musical instruments' that can be played by holding hands'*.

Touchable Sound: Prototype design

The prototype design phase included development of a music and sound palette and construction of the prototype device. The device comprises three boxes. The design features include:

- simple one button and one volume knob design
- eight sounds to choose from
- speakers in the touch points so that the sound vibrations can be felt
- lighting in the 'computer housing box'
- textured box tops.



Touchable Sound: Pilot workshops

Pilot workshops were arranged with local aged care agencies, through the networks of the Aged and Disability Services team. The aim of the pilot workshops was to test the prototype device, the structure of the workshop and the reactions of participants and groups.

The evaluator and other members of the Working Group attended workshops as observers, with the consent of the agencies, using the Touchable Sound Observation Checklist (see: Attachment 3).

Six Touchable Sound workshops were conducted at three local agencies, comprising residential aged care and community-based care services in October and November 2019.

Participant group & centre	# Participants
Residents with early stage dementia Donwood Aged Care	7
Residents with later stage dementia Donwood Aged Care	12
Community group for women with dementia Donwood Aged Care	7
Community group for men with dementia Donwood Aged Care	8
Planned Activity Group – Dementia specific Killara House	7
Community group for people with dementia Caladenia Dementia Care	16
Total	57

Evaluation findings

This section sets out the results of the evaluation, exploring the extent to which Touchable Sound was able to demonstrate a successful approach and resources and to demonstrate a model of collaboration and co-design.

The Touchable Sound approach

The Touchable Sound pilot project aimed to 'establish a successful approach and resources to support arts and dementia activity that has social and mental health benefits for participants and their carers.'

In late 2019, six Touchable Sound workshops were delivered by the Playable Street facilitators to groups of people with dementia in residential aged care and community-based settings. A total of 57 people participated in the workshops, including those with early and later stages of dementia.

All workshops were observed by two to four observers using the Touchable Sound Observation Checklist (see: Attachment 3).

Process

Groups participating in Touchable Sound workshops were set up in a circular or horse-shoe shape, depending on the size of the room and the number of participants. Rooms varied from a lounge room-like atmosphere to a large, meeting style room in a residential aged care setting. The set-up of the rooms also depended on the physical needs of participants. Aged care residents had higher needs, with several residents requiring mobility aids such as walkers or wheelchairs.

The pilot workshops were delivered using a similar structure, commencing with the two facilitators providing a simple introduction to the device and the activity. The facilitators demonstrated how the device was activated through touch, playing different musical sounds. Participants were then asked if they wanted to have a go. Generally, one or two people from each group were willing to have the first go, while others held back initially.

Moving the device on a mobile tray or over-bed tray was found to work well, so that the device could be taken to participants rather than vice versa.

Each session lasted between 30 – 60 minutes, depending on the size of the group. After each session, the prototype device and the workshop structure were reviewed and minor improvements were made for subsequent sessions.

Some technical issues were experienced in the first sessions when sound from the device was not triggered by hand to hand contact but could be triggered when touched. This likely related to humidity or possibly the carpeting and was overcome on the day, however it did reinforce the need for pre-session checks. Subsequent workshops included individual touch with the device, followed by the group holding hands to create a circuit and activate the music and sounds. The community-based groups of people living with milder forms of dementia engaged in discussions at the end of the session to share their experiences and ask questions.

Informed by guidelines for communicating with people living with dementia, the facilitators took a very deliberate approach to explaining the activity to groups and the language they used by:

- simplifying instructions
- providing step by step directions
- demonstrating how to touch the device to make sound
- rephrasing information when needed
- taking care with language and tone of voice
- using voice encouragingly
- giving participants ideas of what to do next if needed, to limit confusion.

One of the Playable Streets facilitators observed after the residential aged care workshops that:

'I found many participants needed slow, simple instructions with hands to demonstrate, a gentle voice and reassurance that there was no right or wrong way to do it. It was important that

participants knew I was there to assist them if they needed, but I wasn't going to make them do anything they didn't want to. The way to convey this was to engage with them slowly and give them space to come to the activity in their own way.'

Level of engagement and responses

Of the 57 people with dementia attending the six workshops, 52 people (91%) actively participated individually and with the group while five chose not to 'have a go'. Those who did not 'have a go' with the Touchable Sound device remained in their groups and observed the activity with interest.

The group observers watched for signs of anticipation and interest amongst group members as the activity was being set up. The smaller, community-based groups had self-selected to participate in the activity and were curious when they saw the equipment being set-up. In several groups, participants started asking questions about the device such as *How does it work? What is it called? Who invented it?*

In the residential aged care setting, with a less prescribed schedule of activities, the sense of anticipation and interest was evident with the early stage dementia group. The residents with advanced forms of dementia were passive initially, with little change of expression before the activity commenced. Some in this group had restricted mobility and several were non-verbal.

For all groups, participants' interest in the device and how it worked visibly increased after the introductory demonstration by the Playable Streets facilitators. One or two individuals typically showed a higher level of interest and were keen to volunteer as the first participant. A shift in the group's mood was evident after the first couple of participants had had their turns, with a sense that a slight unspoken anxiety of not knowing what the activity involved had dissolved, replaced by a sense of excitement and curiosity about what would happen next.

Only one residential aged care participant appeared upset and withdrew from the group. It was unclear whether the onset of the activity or being in the group triggered their response. Staff did not appear surprised by the response and assisted the resident to quietly move away from the group.

With the exception above, all other participants visibly enjoyed the experience. All participants were able to use the device including those with compromised mobility or movement. A number of participants who appeared disengaged initially, sometimes with their eyes closed, possibly sleeping, visibly changed during the session. Multiple participants were observed to transform during their turn from a passive and withdrawn state to alert, upright, watching the device, watching other participants, maintaining eye contact with others and with the facilitators.



Some participants returned to a fairly passive state after their turn, but most remained engaged for entire the session. Participants were observed responding to the music and sounds of other group members by tapping on chairs or tables or moving their hands in time with the music, turning to face the sounds, sometimes moving or swaying with the music, sometimes clapping after a 'performance' from one of the participants. Several participants spontaneously started conducting the music with their hands or playing 'air piano', especially on hearing Fur Elise.

Once the activity commenced, participants who had initially been reluctant to have a turn 'warmed up' during the session after watching others and were happy to experiment with different ways to produce sounds.

Some of the more striking examples of participation were from participants who were withdrawn, non-verbal and/or physically limited who participated and responded with obvious, observable enjoyment. A participant with cerebral palsy for example smiled delightedly during her turn with

obvious enjoyment from engaging in an activity independently and being the centre of attention.

Other participants' facial expressions changed, heads were held upright rather than slumped, eyes were open, engaging with others and their line of sight followed the action of the activity. One participant who was in a very passive state was introduced by the staff as having been a kindergarten teacher, and though she was non-communicative, her head visibly moved when she heard her job title mentioned.

Besides evident responses from gestures and facial expressions, the experience prompted many comments from participants. Many thought the device itself was *'amazing'*. One aged care resident who had remarked *'What's the point of that?'* when the workshop commenced changed when she had the opportunity to participate. *'That's clever!'* she said when she first made a sound. When she learnt how the sounds were made, she thought it was *'incredible'* and told the facilitators she used to play piano when she was younger. The workshop prompted many comments from participants about their connections to music – whether they had or hadn't played an instrument, their love of classical music or particular pieces of music.

One participant, who had been anxious about partaking in the group activity, remarked after the session that she *'felt inspired to go back to her room and dance to music.'*

Another participant, the workshop observer noted, *'beamed as she left with her daughter at the end of the session and said how much she enjoyed it and would love to participate again. Her daughter said she always had a passion for music and used to sing in choirs.'*

Individual responses

At the individual participant level, the facilitators observed that *'It was striking to see that each person seemed to understand that their touch was creating sound, each person seemed to enjoy this very much.'* A wide range of interesting, insightful and positive individual interactions were observed.

The following snapshots capture some of these responses and experiences. (Names of participants have been changed).

'Stan' had been quiet and impassive watching others. On his turn, he triggered the double bass sound with a jazzy vibe and raised his other hand moving in time with the music and providing an impromptu performance. His eyes were bright and alert and smiling cheekily and when he finished the other group members laughed and clapped.



'Valda' was the first participant in the first workshop and was highly engaged from the start. She thought the device was *'amazing'* and asked lots of questions about how it worked. As she had her turn, she told the others in the group encouragingly *'It won't hurt you'*. Valda attends another group, and four weeks later when a Touchable Sound workshop was held with that group, she instantly recognised the device and said *'I've done this before'*. While enthusiastic again, she held back to let someone else have the first turn. She again told the group members *'It's nothing to be afraid of'*.

'Marie' played along to the entire piano piece of Fur Elise with emotion and care. She lowered her head and swayed her body as she lingered on some notes for added emphasis and sped up in some moments to create more energy. The rest of the room was silent for this performance. After the workshop, Marie asked the facilitator to write down what she had done, as she wanted to share the experience with her family but she *'wouldn't remember what had happened'*. The facilitator wrote a page of notes for her describing how she had captured the room with her music.

'Keith' arrived late to the group, but was immediately interested and engaged, and keen to ask questions about the technology. The facilitators bumped into Keith an hour or so later as they were leaving the facility, and he was keen to share that he '*remembered a genius in the 1930's who had*

created the technology to move his hands in the air to create sound.' Fortunately, the Playable Streets facilitator recognised this anecdote as a story about the Theremin and could chat to Keith about this amazing invention. (see: below)

The Theremin: Magical Music Machine

Nearly one hundred years ago, in 1922, a young Russian scientist and inventor, Leon Theremin, was summoned to the Kremlin to meet Lenin. It was the start of an incredible journey that laid the foundations for modern electronic music, from the Beach Boys to Pink Floyd.

Leon Theremin had come to the Bolshevik leader's attention after inventing a revolutionary electronic musical instrument that was played without being touched.

The instrument consisted of a small wooden cabinet containing glass tube oscillators and two antennae - one sticking out the side and the other out of the top - which produced electromagnetic fields.

Theremin, an amateur cellist, had come up with the idea for his instrument shortly after the Russian revolution in St Petersburg.



He was developing an electronic device for measuring the density of gases and noticed the sound it made changed depending on the position of his hand.

Lenin was so impressed he sent Theremin across Russia to show off his instrument and promote the electrification of the country.

He was then sent to Europe and the US to showcase Soviet technology and his performances received widespread coverage in the newspapers, with headlines about magical music being created out of the air.

Sources:

Michaels, Sean "The invisible instrument" *The Guardian* 22 August 2015

Vennard, Martin "Leon Theremin: The man and the music machine" *BBC World Service*, 13 March 2012

Responding to the music

In addition to the comments and expressions of participants, the different ways participants responded to and interacted with the music were interesting, spontaneous, sometimes quite idiosyncratic and often showed musical and creative agency. A number of participants tapped, clapped, conducted or played 'air piano'.

At the men's group, the Touchable Sound facilitator observed participants: *'...touching up and down an arm when the sound was switched to a 'walking' bass line. This is an interesting phenomenon to observe these mostly non-musician participants using physical space to delineate pitch the way professional musicians do. Other participants used their fingers as if playing piano keys, suggesting that they feel a sense that they are controlling not only the tempo of the device, but also the pitch, through touch.'*

Several members in the men's group were observed to *'trigger sounds on the facilitator's hand and then 'swipe' his arm in a downwards motion. This was an interesting demonstration of the participants' agency in creating their musical gestures and their active engagement in the process'*.

In a residential aged care group, when engaged one to one with a participant, the facilitator deliberately paused the sound several times. Each time, the participant continued tapping without missing a beat. The facilitator noted that *'this is a good illustration of how the device can be used to demonstrate innate musical abilities accumulated from a life of hearing music, regardless of direct engagement with musical instruments.'*

"Bill' had tremor in both upper limbs and was the first volunteer in his group. Bill 'harnessed' his tremors to trigger the sounds in a fast-paced manner, much like a violinist would use tremolo. This was a powerful moment as the participant was using their disability as a new, unique ability.'

Touchable Sound facilitator

Group observations

Feedback from the facilitators and observers on the group dynamics during the sessions show that the experience was clearly social and interactive. Two facilitators and up to three observers at each session consistently observed that:

- most people willingly held hands for the exercise when that was part of the workshop, and those who did not want to could gently and easily sit that out
- the workshops were an obvious communal experience for participants, with each eliciting slightly different interactions
- participants in some groups could have spent longer playing with the device and were often keen to continue talking after the session
- once participants understood the process and the activity, the lift in the group mood from quiet and passive to interested, involved and often quite animated was clearly discernible.

Participants in the women's group, for example, were lively and energetic, happy to have their turn and had lots of questions about the technology. This group was particularly captivated by Fur Elise, and it emerged that several participants had played piano in their younger days. This group was also particularly drawn to the pilot name of the device of 'TiM – Touch is Music'.

The men's group, in comparison, were initially more reserved than the women's group to start, but gradually warmed up. At the conclusion of the session, the participants made a point of shaking hands with the facilitators and observers, thanking them for the experience.

Participants in the community-based groups had lively group discussions after the sessions. They were very curious about the technology, with lots of questions, wondering if it was available elsewhere and how to describe it to others.

Staff from the community-based agencies and from residential aged care centre validated the observations of the groups. They were able to

provide some more nuanced feedback based on their knowledge of clients. For example, the participation of one aged care resident in the advanced dementia group was more animated and engaged than staff had expected. The resident was non-verbal and was quite withdrawn initially but grew more animated as the workshop progressed and was listening throughout. She was happy to play the device when it was her turn and showed agency in deciding when to touch the device.

Staff took photos of another residential aged care participant as he was playing the Touchable Sound device *'to show his wife'*. This gentleman was in a wheelchair and had been dozing off but was bright and animated during his turn and remained observing the group for the rest of the session.

Impacts after the sessions

Staff reported positive effects and elevated mood of the groups after each session had finished. After one of the community-based workshops, for example, staff reported that group members *'decided to continue the music theme into the afternoon and had an impromptu singalong and discussions about their favourite music.'* Others reported that *'everyone seemed a little more relaxed after your session.'* One Planned Activity Group facilitator reported that *'When I spoke with everyone in the afternoon, they were feeling very uplifted and happy'* and provided interesting individual feedback from participants reported in the box below (names are changed).

“Betty’ said that the activity gave her a feeling of being light and that she still feels that way this afternoon.

‘Kathleen’ is looking content and when I talked to the group about the experience this morning, she smiled that beautiful smile.

Both ‘Alice’ and ‘Merle’ said they enjoyed feeling like they could actually play music for the group and are looking forward to going home and talking about it.

Everyone has agreed they feel relaxed and calm still from the morning.’

Planned Activity Group facilitator

Has Touchable Sound developed a successful approach and resources to support arts and dementia activity with social and mental health benefits for participants and carers?

The Touchable Sound approach and resources

The pilot project tested the approach, the prototype ‘Touch is Music’ device and other resources through six pilot workshops – two in a residential aged care setting and four in community-based centres. The device was successfully used by 52 of the 57 participants living with dementia engaged in these workshops. Those who didn’t use the device remained as observers of the session. The residential aged care participants were living with more advanced stages of dementia compared to the participants from the community groups. Some also had a range of other physically and cognitively restricting conditions. These conditions did not prevent anyone from participating in the workshops. The Touchable Sound device was accessible and user-friendly for all participants.

All that is needed to run a workshop is a suitable group activity/meeting room, a trolley table and space to move this around the group. These requirements were met by all centres. Space was limited in one community centre, which runs a group program in a homelike atmosphere, however the workshop still functioned well.

The Touchable Sound workshop structure worked well with all groups. The approach was tweaked and improved slightly as each workshop was delivered. For example, as the workshop schedule progressed, the spoken introduction was shortened and the emphasis shifted to demonstrating how the device worked. This was found to be more effective in holding the attention and interest of the group and encouraging individuals to have a go.

The most significant resource developed through the project is the **‘Touch is Music’ device**. The prototype device was simple, accessible and worked well in the six pilot workshops. The device has been programmed with eight musical pieces and instrumentation. Fur Elise resonated with many participants, particularly those who had previously played piano. The ‘walking’ jazz double-bass music

also worked well, with a number of male participants particularly enjoying this. There is scope for the device to be programmed with a range of sounds and music. Some ideas suggested by participants and staff after the workshops included country music, Waltzing Matilda and dance music such as a waltz or tango. The Working Group also discussed the idea of sounds from nature, such as rain, the sound of the waves or a river flowing, bird songs or other animal sounds.

Just as the device can be programmed with other music and sounds, there is scope for the device to be designed in alternate shapes, sizes, and materials.

Additional resources developed through the pilot project include the Touchable Sound Operational Guidelines and an Observation Checklist.

The Touchable Sound Observation Checklist worked well. This resource aligns well with the Arts Observational Scale (ArtsObs), a validated tool for the evaluation of performing arts activities in health care settings developed in the United Kingdom (Fancourt & Finn, 2015). This scale observes: individual mood, relaxation and distraction. Each element is measured before and after the arts intervention. Relaxation is measured because it is an important factor in the experience of a health care setting and in health outcomes. It is assessed by observable signs of muscular relaxation of the face, limbs, jaw, breathing, eyes shut, falling asleep. 'Distraction' refers to the techniques used in health care to reduce patient anxiety, fear around needles and medication, and pain levels.' While this category is less relevant for a residential aged care setting, the assessment of it through observable signs of the level of engagement with the arts activity is relevant. The Touchable Sound Observation Checklist, while developed specifically for this pilot project, uses a similar set of signs to observe mood, response and engagement in the activity.

The Touchable Sound Operational Guidelines have been prepared in readiness for aged care services centres to independently facilitate workshops. They have not yet been tested, but the document is clear, simple but comprehensive.

Social and mental health benefits

In terms of social and mental health benefits for participants, the analysis of the observations of 57 participants through six pilot workshops shows that:

- participants successfully engaged with the activity individually and with their peers in the group
- a lift in mood was observed for individuals and groups
- all participants showed observable signs of enjoyment (smiling, laughing, hand clapping, changes in facial expression and so on)
- many participants engaged with the sound and music making in experimental and adventurous ways, including those living with advanced dementia and other disabilities.

Participants with physical or communication deficits could use the device as well as those without these restrictions. Often their responses were particularly touching as their pleasure in participating independently and creatively in an activity was obvious.

Observations of the Touchable Sound groups clearly confirmed that social and mental health benefits were derived from the participation. For participants and groups, the activity sparked interesting memories, conversations and joyful responses. Participants spontaneously reacted to the experience of playing with the Touchable Sound device, and this was observed through their facial expressions, gestures and through comments to the facilitators, staff and other participants. The social interactions continued in most groups after the workshop, and even continued into the afternoons.

The mental health benefits of Touchable Sound can be objectively demonstrated by the evident relaxation of the participants and the levels of engagement in the activity. These observations are significant because they are consistent with the measures that the ArtsObs uses to positively

evaluate the effectiveness of participatory arts activities in health care settings.

Participants' enjoyment of the experience is further validated by the feedback from the participating residential aged care and community centres. Feedback from the centres not only reinforced the project team's positive observations of the activity, but also that the impacts for participants could resonate throughout the day. Interestingly, several centres chose to emphasise that participants 'felt relaxed' after the session, which is also consistent with a key measure from the ArtsObs. The Touchable Sound team and observers encountered one participant who recalled the activity from four weeks before indicating that the activity made a clear impression.

The literature review noted that the benefits of creative and participatory interventions with people with dementia were often found to be fleeting but that there were still important benefits to providing 'in the moment' experiences. Playable Streets noted that *'we believe that the fleeting nature of music is a perfect place to encourage interaction and connection'*.

Working Group members, particularly those from the Aged and Disability Services team, argued strongly in support of clients with dementia having access to an activity which was fun, engaging and provided 'moments of joy', regardless of whether there may have been longer lasting benefits.

Impact of COVID-19 pandemic and conclusions

The pilot project had intended to conduct further workshops and testing, however, the COVID-19 pandemic prevented this, with strict lockdowns and social distancing requirements particularly in aged care settings.

Despite the limitations enforced by the pandemic on the extent of pilot activity, the pilot project was able to test Touchable Sound in a range of settings and groups, and with a sample of 57 people whose experience of dementia ranged from mild to more advanced forms. All evaluation indicators of success were met:

- the prototype device was found to work and was user-friendly
- participants successfully engaged with the activity, individually and as a group
- social and mental health benefits were observed for individuals and groups
- participants directly displayed and reported social and mental health benefits
- centre staff reinforced observations of positive social and mental health benefits.

On the basis of this information, there is sound evidence that through the project:

- Touchable Sound established a successful approach and resources to support arts and dementia activity, and
- that the activity has social and mental health benefits for participants.

One element of the project's longer-term aspirations was unable to be explored through the pilot. It was hypothesised that involving the person with dementia in an activity which provides social and mental health benefits is likely to have flow-on benefits for carers. There were numerous examples of participants or staff wanting to share the participant's experience with family members. However, the pandemic and its impacts prevented this element of the pilot project being explored systematically. It is hoped that a future iteration of the project could investigate whether the participation of people living with dementia in Touchable Sound activities also has flow on social and mental health benefits for carers and families.

Model of interdepartmental collaboration and co-design

The Touchable Sound collaboration

The Touchable Sound pilot project aimed to *'demonstrate a model of collaboration and co-design between the disciplines of arts, aged and disability care, that offers Maroondah Council, local government and the broader arts, aged and disability care sectors generally, new ways of working to address social issues.'*

The history of the Touchable Sound project starts with what the Arts and Cultural Development staff described as an ‘almost incidental experience’ when a Chinese community dementia group and their carers participated in an ‘In Touch’ workshop run by Playable Streets.

Held in the City of Maroondah’s aptly named ArtSpace – an exhibition space which provides a program of participatory arts experiences, exhibitions, performances and activities, curated by the Arts and Cultural Development team – ‘In Touch’ was designed for a general community audience, with workshops available for families or community groups. The delighted response of the Chinese community dementia group and their carers participating in this creative sound-and-touch project also excited the Arts and Cultural Development team, Playable Streets and the Aged and Disability Services team.



Workshop members participating in the *In Touch* project at Maroondah’s Realm ArtSpace, produced by Playable Streets

Further workshops were held with the Chinese community group over the next 12 months to similar effect. Recognising the significance of the response, the Arts and Cultural Development team worked with the Aged and Disability Services team to discuss the responses and the potential of developing a creative sound and touch project further, specifically targeting people with dementia.

Under Maroondah Council’s organisational structure, the Arts and Cultural Development and Aged and Disability Services teams both sit within the Community Services service area. Community Services supported the development of the project and allocated funding to engage Playable Streets to

research, and through a co-design process, develop dementia-specific creative sound and touch resources. The project was named ‘Touchable Sound – an Arts and Dementia project’. Effective Change was engaged to evaluate the project. The Touchable Sound Working Group was established comprising:

- the Manager, Community Services
- two members from the Arts and Cultural Development Team – the Team Leader and the Arts Activation Coordinator (also the Touchable Sound Project Manager)
- two members from the Aged and Disability Services team – the Program Manager and an Occupational Therapist
- Director, Playable Streets
- Director, Effective Change.

What’s different about the Touchable Sound approach?

All bar one of the council members of the Working Group had worked on cross-departmental projects, and it was observed that Maroondah Council often works this way. Playable Streets frequently collaborates on projects with other artists or arts organisations but not across non-arts council areas.

Working Group members agreed on a number of characteristics that distinguished the Touchable Sound project from other cross-departmental partnership experiences, such as:

- the project was explicitly developmental and did not have predetermined outcomes to work to such as skills development or a performance or strictly circumscribed staff roles
- the genuine co-design, co-development nature of the project
- the use of expertise from diverse disciplines to create an innovative arts response to address the social needs of a specific cohort
- the depth of exploration around developing a new model that responds to a specific need
- the examination of the literature and the project’s research components.

The Arts and Cultural Development staff observed that the Touchable Sound project was *'very much a project with shared ownership.'*

'One of the characteristics of this project too is that that level of passion has been sustained. It's not that unusual to start a project off with both departments getting excited but that tends to fall into a pattern of one team driving it. With Touchable Sound, we've been able to sustain that balance of both teams being equally invested in it.'

Arts and Cultural Development Team Leader

Positives of the Touchable Sound approach

All Working Group members reported that the process worked, and was continuing to work, very well.

'Sharing of knowledge and expertise' was identified as a key advantage of working in this collaborative model. For example, all Working Group members attended a dementia-specific forum - *Dementia: Inspiring Change* in late 2019 at the invitation of the Aged and Disability Services team. This forum for service providers was presented by Maroondah Council in partnership with the eastern metropolitan councils. The Aged and Disability Services team felt that this shared education was *'an opportunity that really helped shape the project.'* It was particularly important that this provided an opportunity for the artists to develop a sound understanding of the experience of dementia. The artists agreed and observed that *'sometimes projects expect the artists involved to be experts in fields they have no experiences in.'*

In addition, most Working Group members had observed or participated themselves in the previous creative touch-and-sound workshops organised by the Arts and Cultural Development team or in the Touchable Sound workshops. This meant that all members had a clear understanding of the workshop process and had observed the impact of the experience on participants.

The positive elements of collaborating in a cross-departmental, cross-disciplinary group identified by stakeholders included:

- the opportunity to consider matters through the different lenses and perspectives of the disciplines represented on the Working Group
- real-world knowledge and input
- the practical ideas and contributions of members during the device design process, especially from the Occupational Therapist
- the breaking down of departmental silos
- the leadership support, vision, commitment and financial commitment to the project.

The Arts and Cultural Development team highlighted the significance of the complementary nature of the skills and expertise of the council teams on the Working Group. The Aged and Disability Services members' knowledge of and advocacy for people with dementia meant that the arts practitioners have not had to *'speculate if this or that may or may not work'*. The Aged and Disability Services representatives' deep understanding of the demographic group, and their needs and priorities provided confidence about approaches that would work. Consequently, it was observed that *'that's where you get genuine collaboration. We really respect and value and recognise that there is no way the Arts and Cultural Development team could do this on our own, and likewise, nor could Aged and Disability Services do this on their own.'* The Community Services Manager described the collaboration and design process as *'a process of learning and focusing where energy needed to be directed.'*

Inevitably, the nature of highly functioning groups also comes down to the people in the room. Across this group, members indicated that they respected and valued the professionalism, commitment and input of their fellow members and all members worked well together.

All members agreed that the inclusion of the external members on the Working Group was highly beneficial to the process and *'critical to the project's success'*. The artist's participation in Working Group discussions about the needs of the target group enabled much greater exploration of possibilities and ideas. Without the artist in the room, the Project Manager would have had to

interpret the discussions and brief the artist, with a risk of nuances being 'lost in translation'.

Having the evaluator participate in the Working Group was seen as bringing a sense of structure, academic gravitas and value to the project. Other members of the Working Group did not have the time, expertise or capacity to undertake the evaluation component. The inclusion of the external evaluator, who is removed from the project, was seen therefore to bring an external perspective, elevate the project and 'bring it all together'. Most importantly, the evaluation was seen as supporting the project development process and the 'bigger picture' aims of the project. Through the evaluation, the project can have a clearer perspective and 'understanding of why the project works, and if it doesn't, why not.'

Stakeholders felt that the combination of the two external members was optimal resourcing and 'will make the difference with the project'. The Arts and Cultural Development Team Leader noted that having these members participate in the conversations 'challenged and extended our usual way of working. It connected us with a bigger, outside perspective...and enriched how we were all able to engage. It also probably kept us all stimulated and a bit more accountable (than doing an in-house project).'

Negatives of the Touchable Sound approach

No specific negative aspects were identified with the collaborative model of working. Several members noted that the project was slow-moving and therefore time-consuming, but this was seen as due to several factors, including the developmental nature of the project. Maintaining the focus on the project brief and objectives was also sometimes difficult, often because the project engendered enthusiastic responses from the group and sparked broad-ranging discussions of possible pathways for Touchable Sound.

'I think it has been necessary to have the longevity of the project and the various lenses having an input. Even though it doesn't make it a fast project, it is an action development, an evolution - true co-design based on what we discover.'

Aged and Disability Services Program Manager

Potential improvements

Given the high levels of satisfaction with the project collaboration, limited improvements to the process were suggested. 'A clearer brief' was one suggestion, but it was also noted that 'this may have stifled our opportunity to innovate'. One stakeholder noted that 'you learn a lot about your assumptions - what people know and what you think they know.' A couple of suggestions were made to address these assumptions such as:

- introductions of Working Group members at the commencement of the project to include a good overview of their profession, their professional role and their role in the project
- providing all members with a demonstration of the touch and sound type modules at the commencement of the Working Group
- developing a common understanding of, and approach to 'co-design', as not all members came to the process with the same understanding of this term.

The artist noted, reflecting the views of the whole group that 'I would have liked to have seen more workshops in Aged Care facilities, but unfortunately they were cut short due to COVID-19 restrictions.'

Keys lessons for the aged care and arts sectors

Working Group members agreed that the successful execution of the pilot project could offer useful insights for other local governments and more generally for the aged care and arts sectors.

Recognising the significance of a key moment

The Touchable Sound project would not have eventuated had the significance of the Chinese

community dementia group's engagement with earlier workshops been overlooked.

The intuitive nature of the creative sound-and-touch activity seemed to surmount the anticipated challenges of running workshops when participants' linguistic differences were also combined with the experience of dementia.

Council's Arts and Cultural Development staff shared their observations of the group's ease of engagement and joyful responses with their Aged and Disability Services colleagues. Aged and Disability Services staff members either observed further workshops with the Chinese community dementia group or participated in workshops specifically organised for staff and, as the Arts and Cultural Development Team Leader reported:

'It was like everyone's lights went on at the same time.'

Forming a cross-departmental partnership

Council staff acknowledged that the workshops with the Chinese community dementia group had generated a response of unexpected positivity. Both teams were confident that the approach offered possibilities for further development. Despite the time pressures of day-to-day operations, this was followed through with developing a project brief and forming a cross-departmental partnership.

The complementary nature of the partnership

The Touchable Sound Working Group combined internal members from two departments with external members comprising the leading artist and the evaluator. The members spanned a range of disciplines, backgrounds and areas of expertise. Both council teams observed that neither team could have achieved singly what the two teams were able to achieve together, because of the complementary skills and multiple perspectives contributing to the project development.

'Working inter departmentally has been a very successful part of this project.'

'Council and local government can learn new ways of working to address social issues by opening up, by embracing a broader input of knowledge and ideas.'

Calculated risk-taking

Regardless of the impacts observed for people with dementia through the earlier community project, the brief for Touchable Sound was to adapt some of the elements and take the workshops directly to residential aged care and community centres. This was an entirely new way to approach this work, and it simply wasn't known whether this would succeed or fail or fall somewhere in between. However, there was trust that the process could be designed safely, drawing on the expertise of Working Group members, and in consultation with staff at centres. Therefore, there was a strong probability it should work, and would definitely 'do no harm'. The manager has described this as *'taking the opportunity to do things 'differently' when you see something is working'*. While risky, the risks were calculated and taking this calculated risk was critical to the success of the project.

'This project was a risk, it was a weird idea that captured the imagination of the working group and in turn the participants of the project. Risk taking is a necessary step towards new ways of working and thinking to address social change.'

Investing in research, development and time

Whilst embarking on the project itself was a risk, the willingness of Aged and Disability Services to invest their funds, with some external support in a longer-term, well-managed, genuine research and development project is one of the most significant aspects of this project.

The project was planned and funded to provide sufficient time for research, trialling, exploration, development and evaluation. In local government the focus is more commonly on the immediacy of a project outcome in Arts and Cultural Development or on service delivery in Aged and Disability Services. Ensuring that the project integrated these elements of research, project development, reflection and evaluation and allocated sufficient time for these tasks to be undertaken rigorously is an important lesson for local government.

Embedding the evaluation and reflection throughout the process enhanced the research and development and documented the project so that others can learn from and replicate the approach.

‘Council’s patience and the trust to enter the process without needing immediate outcomes is one of the key lessons.’

‘The willingness to engage with a well-managed R&D approach...that to me is the most unique thing about the project.’

Shared ownership and commitment, driven by members’ involvement and observation of results

Across the council teams, there has been:

- an equal sense of commitment to, and ownership of, the project
- a shared interest in the success of the project and belief in its continued potential.

This sustained commitment to the project has been driven by team members’ active involvement in the project, the direct observation of the successful pilot workshops and monitoring of the project’s progress. These factors, in turn, help to maintain the project’s momentum.

The working process

The project has been managed and driven by the Arts Activation Coordinator, who has coordinated work with the artist, the evaluator and the Working Group. The work of the Working Group has been characterised by interesting, engaged and respectful discussions.

Benefits to council

A key lesson for local government emerging from this project is that multiple benefits have flowed, not only for clients, but also for council:

- cross-silo work has maximised the benefits of the resources invested In Aged and Disability Services without compromising quality
- taking the opportunity to build the cross-disciplinary approach, and use funding more

flexibly has enabled and supported the development of an innovative approach that delivers positive outcomes to clients

- participation in a cross-disciplinary design and development process has offered council staff excellent opportunities to develop and extend their own professional skills and knowledge.

Persistence fuelled by the belief that people living with dementia have the right to ‘moments of joy’

Ultimately, the project team has been driven by the knowledge that Touchable Sound offers people with dementia the opportunity to take part in a fun activity, however fleeting.

The coronavirus pandemic prevented the project team – and others – from entering residential aged care centres or directly interacting with groups of older people for the greater part of 2020. Future restrictions are not yet known.

The Working Group has debated the option of widening or pivoting the project to another target group, such as children with a disability, where future project funding and support may be forthcoming. However, the discussion has always returned to recalling the responses of individual participants, which has firmed the Working Group’s resolve that people living with dementia have the right to moments of joy. This is reinforced by the academic findings, and the project’s experience, that those moments of joy extend from individuals and to groups and can also extend over time, and to the families and carers of people living with dementia.

‘It’s just about inclusion and joy and that’s breathtakingly refreshing.’

Next steps for Touchable Sound

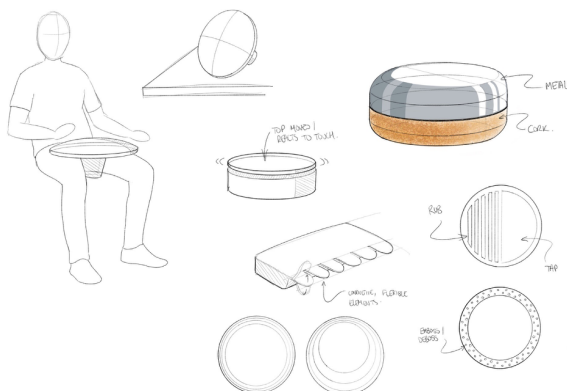
Future options for Touchable Sound

Based on the successful outcomes of the pilot workshops, the Working Group is interested in exploring the options to further develop Touchable Sound and take the project through to a next stage. These options are discussed below.

Exploring design options

Ideally, the Working Group would like to see the prototype device developed to a fully designed product which could be manufactured and produced at scale.

An industrial design firm has been briefed to develop some initial concepts, looking at the form, textures and materials. The figure below shows some of the 'brainstorm' ideas.



Extract of brainstorm ideas, from Phase 1 Concepts for Social Musical Instrument. Studio Periscope.

The initial concept paper presents options for material selection, manufacturing processes and potential upfront and unit costs. Embarking on a design and production pathway would require further prototype development and testing, including tests with participants.

Design and production of a device would necessarily require significant funding.

Funding options

Funding options have been and continue to be examined, including funding programs which are targeted to:

- dementia-specific projects
- aged-care specific projects
- research projects
- health promoting community projects.

Seeking funding through these options is likely to be challenging given that funds are needed for industrial design and production, which is outside the guidelines of these conventional avenues. The project is further challenged because:

- as a cross-disciplinary approach it intersects across the portfolios of health, aged care and the arts, but funding opportunities through these portfolios are most often siloed
- services and programs for the target group are funded by both state and federal governments
- funding for dementia care often prioritises therapeutic, clinical and behavioural interventions over social and creative interventions.

Better Care Victoria (BCV) administers the BCV Innovation Fund to 'help the Victorian health sector identify, scale and embed innovation effectively' and seeks 'ideas, concepts and solutions that are novel and are game changing.' (BCV innovation-fund) This could be a promising option, however:

- it would require a focus on services funded by the Victorian government (e.g. Public Sector Residential Aged Care Services, or services funded through Community Care).
- the fund was not delivered in 2020, and it is not clear if it continues to operate.

By far, the overarching challenge for further development of the project has been the impacts of the COVID-19 pandemic on aged care, and particularly on residential aged care. While the project received promising feedback from one funding opportunity, it was not selected due to the restrictions on entry to aged care and lack of certainty for when those circumstances will change.

Crowd-funding is another option which could be pursued, but would require considerable work to promote and manage a campaign. The 'Music Memory Box' for people living with dementia, created by UK-based Studio Meineck is successfully pursuing this option. (see: [music-memory-box-campaign](#))

The Music Memory Box is a box that is filled with objects, music and photographs which have meaning for the intended recipient. The kits can be purchased and the crowd-funding process is aiming to scale up the production process. This project has received a number of awards, both in dementia and design categories. The crowd funding campaign has raised over AU \$50,000, and aims to raise more funds, expanding production and reach to other countries. However, production has also been significantly interrupted and slowed by the impacts of the COVID-19 pandemic.

Partnership approach

In order to sidestep the challenges of funding silos or self-funding, an alternative is for the project team to partner with an appropriate organisation, such as Dementia Australia, with a long-term focus on the best interests of clients and an appreciation of the benefits of a creative and social intervention for people living with dementia on quality of life and mental and physical health.

Through an appropriate partnership, the project team could be connected to funding sources and/or researchers with compatible interests. Dementia Australia, for example, could link Touchable Sound with research projects funded through their research streams, such as:

- the University of Melbourne's Creative Arts Therapy Research Unit, which is leading a study on the effects of music therapy on sufferers of depression and symptoms of dementia living in residential aged care facilities
- Western Sydney University which is developing and testing a training program for aged care workers to personalise care of people with dementia through music.

Mix and match approach

Given that Touchable Sound does not fall neatly into funding categories, a mix and match of small grants from different portfolios may be required to continue scaling up the project.

Alternatively, Maroondah Council could join with other councils and/or providers of aged care services willing to contribute funds to the project.

Opportunities

While the pandemic has been a challenging backdrop to the project and the funding outlook is also challenging, this difficult point in history may also offer some unique opportunities. Firstly, given the systemic failings in the aged care system highlighted by the Royal Commission into Aged Care Quality and Safety, there may be a new focus with future funding on supporting initiatives that enhance quality of life.

Secondly, the radical changes to working life brought on by the pandemic have created a greater willingness to embrace new approaches and new initiatives in the future.

In Victoria, when it is safe to re-enter residential aged care services and re-engage in face to face community-based services, it is hoped there will be an increased appetite for meaningful, creative and joyful activities for people living with dementia.

Limited examples of technological creative participation projects were found in the literature review, with some interesting projects in Europe and the United Kingdom. The results suggest that the work of Touchable Sound, with its focus on participatory and creative music making, is unusual if not unique compared to many musical activities or approaches for people with dementia.

The confluence of these factors above may create new opportunities for Touchable Sound over the medium term. In preparation, a 'stage two' Touchable Sound project could be designed to focus on both the technological features of the device and on collecting evidence about the impacts of the activity on the carers and families of people living with dementia.

Conclusion

The Touchable Sound pilot project, funded by Maroondah Council, piloted an interactive, digital arts project exploring touch, sound and creative play developed through a cross-disciplinary partnership. The project was delivered over 12 months, with six workshops conducted at residential aged care and community-based aged care centres. Fifty-seven (57) people living with dementia participated in the pilot project.

Achievement of objectives

The Touchable Sound project has demonstrated a successful approach for a creative arts projects, designed for people living with dementia. Whilst still in a prototype stage, the Touchable Sound device is a significant resource developed to support this activity, complemented by a range of other resources including Operational Guidelines for facilitating Touchable Sound sessions.

The project was unable to examine the impacts of the activity for carers due to the impacts of the COVID-19 pandemic and lockdown restrictions. However, the pilot workshops, held in a range of different aged care settings showed clear social and mental health benefits for participants. Considerable evidence was collected through the workshop observations of social engagement, individual enjoyment and significantly, individual agency in the activity including by people who appeared withdrawn, non-communicative or were physically limited. The careful and skillful facilitation of the workshops by the artists undoubtedly contributed to these results.

The opportunity to engage in the creative activity, and the enjoyment derived from it may have been fleeting for people living with dementia, but this is in keeping with the ephemeral nature of music and most people's experiences of music.

While the project did not aim to achieve aims longer than participants' momentary enjoyment, in fact, staff observed that in some cases the activity had a positive effect on the mood of individuals and of groups that lasted several hours, with a notable sense of a 'relaxed' mood.

The project also provided clear evidence of a successful model of collaboration and co-design between the disciplines of arts, aged and disability

care. A number of critical factors were seen as contributing to this success. Firstly, recognition of the potential for a dementia-specific creative project arising from observations of an earlier project. Then, most importantly, Maroondah Council took a calculated risk to invest funds, time, management and staff resources and undertake the project through a genuine research and development approach. The engagement of the artist and the evaluator in the Working Group, together with the Arts and Cultural Development and Aged and Disability Services team member, brought together a group of people with complementary skills, experience and expertise, with a strong commitment to the project.

Touchable Sound exemplifies many of the key messages in VicHealth's recent review of evidence of the arts and creative industries in health promotion (Davies & Pescud, 2020). That is, it is an initiative which:

- has been developed, designed and delivered in a way that is responsive to the health profile and preferences of a prioritised community to maximise its benefits
- expands the diversity of people in the local community engaging with the arts
- is a cross-sector partnership, including a partnership with creatives
- the council not established and brokered the partnerships, but also developed the project concept and self-funded the pilot project.

As an outreach activity, that is, an activity taken to the places where people living with dementia reside or gather, Touchable Sound also shows a practical way to address what VicHealth has identified as 'a

lack of equal opportunities to engage in the arts' for priority communities, in this case, older people.

Where to from here?

The Touchable Sound pilot has reached a successful conclusion. The project could have continued with further pilot workshops and exploration of the impacts on carers, if not for the need to halt this quite abruptly with the onset of the COVID-19 pandemic.

Focusing on the significant positive results, the Working Group is pursuing opportunities to take the Touchable Sound prototype through further research, testing and design processes, with the longer-term aim of developing a device which can be produced and accessible to a wider audience. Engaging with a key partner, such as Dementia Australia may be helpful in exploring wider opportunities for the project. Funding options are also being explored, but this is challenging for an initiative which is innovative and cuts across the silos of arts, aged care, health and design.

The Working Group continues to be motivated by the belief that people living with dementia have the right to engage in creative activities which provide joy in their day. While COVID is currently presenting wide scale challenges for all, there is hope that when it lifts, activities such as Touchable Sound workshops are available and ready to assist in the recovery pathway for people living with dementia in residential aged care and in the community.

References

The following includes all references cited in this report and all references examined for the full Touchable Sound literature review.

- Baird, A., Brancatisano, O., Gelding, R., & Forde, W. (2018). Characterization of Music and Photograph Evoked Autobiographical Memories in People with Alzheimer ' s Disease, 66, 693–706. <http://doi.org/10.3233/JAD-180627>
- Bayside City Council. (n.d.). Connections: Art and dementia program.
- Brotherhood, E., Ball, P., Camic, P. M., Evans, C., Fox, N., Murphy, C., ... Crutch, S. (2017). Preparatory planning framework for Created Out of Mind: Shaping perceptions of dementia through art and science. Wellcome Open Research, 2, 108. <http://doi.org/10.12688/wellcomeopenres.12773.1>
- Bunn, F., Lynch, J., Goodman, C., Sharpe, R., Walshe, C., Preston, N., & Froggatt, K. (2018). Improving living and dying for people with advanced dementia living in care homes: a realist review of Namaste Care and other multisensory interventions, 1–15.
- Camic, P. M., Crutch, S. J., Murphy, C., Firth, N. C., Harding, E., Harrison, C. R., ... Zeilig, H. (2018). Conceptualising and understanding artistic creativity in the dementias: Interdisciplinary approaches to research and practise. *Frontiers in Psychology*, 9(OCT), 1–12. <http://doi.org/10.3389/fpsyg.2018.01842>
- Cuddy, L. L., Sikka, R., & Vanstone, A. (2015). Preservation of musical memory and engagement in healthy aging and Alzheimer ' s disease, 1337, 223–231. <http://doi.org/10.1111/nyas.12617>
- Dementia Australia. (n.d.). Affinity.
- Dementia pathfinders (n.d.). Dance for Life: An Evaluation of the Pilot Programme. Retrieved from <http://dementiopathfinders.org/dance.pdf>
- Dementia Shop Australia. (2019). Simple Music Box.
- Drapeau, J., Gosselin, N., Gagnon, L., Peretz, I., & Lorrain, D. (2009). Emotional Recognition from Face , Voice , and Music in Dementia of the Alzheimer Type Implications for Music Therapy, 345, 342–345. <http://doi.org/10.1111/j.1749-6632.2009.04768.x>
- Robyn Dowlen, John Keady, Christine Milligan, Caroline Swarbrick, Nick Ponsillo, Lucy Geddes & Bob Riley (2018) The personal benefits of musicking for people living with dementia: a thematic synthesis of the qualitative literature, *Arts & Health*, 10:3, 197-212, DOI: 10.1080/17533015.2017.1370718
- Fancourt D, Finn S. What is the evidence on the role of the arts in improving health and well-being? A scoping review. Copenhagen: WHO Regional Office for Europe; 2019 (Health Evidence Network (HEN) synthesis report 67).
- Fancourt D. & Poon M. (2015): Validation of the Arts Observational Scale (ArtsObs) for the evaluation of performing arts activities in health care settings, *Arts & Health*, DOI: 10.1080/17533015.2015.1048695
- Heim, C., Este, C. D., & Attia, J. (2011). The effect of Baroque music on behavioural disturbances in patients with dementia. *Australasian Journal of Ageing*, 30(1), 11–15. <http://doi.org/10.1111/j.1741-6612.2010.00439.x>
- Kotzé, P., Marsden, G., & Lindgaard, G. (2013). Human-Computer Interaction – INTERACT 2013. In 14th IFIP TC 13 International Conference. Cape Town, South Africa.

- Life, Q., Phillips, L. J., & Reid-arndt, S. A. (2010). Effects of a Creative Expression Intervention on Emotions, Communication, and Quality of Life in Persons With Dementia, 59(6), 417–425. <http://doi.org/10.1097/NNR.0b013e3181faff52>
- MacPherson, S., Bird, M., Anderson, K., Davis, T., & Blair, A. (2009). An Art Gallery Access Programme for people with dementia: “You do it for the moment.” *Aging and Mental Health*, 13(5), 744–752. <http://doi.org/10.1080/13607860902918207>
- Muller-Rakow, A., & Flechtner, R. (2017). Designing Interactive Music Systems with and for People with Dementia. *The Design Journal*, 20(1), S2207–S2214.
- NHS Forth Valley, (2015). Playlist for Life Report, Quality Improvement. Retrieved from <https://www.playlistforlife.org.uk/Handlers/Download.ashx?IDMF=26edd72d-9030-428a-9885-6506b8d6f501>
- Patton, M. Q. (2011). *Developmental evaluation: Applying complexity concepts to enhance innovation and use*. New York: The Guildford Press.
- Playlist for Life, (n.d.). Personalised music for people with dementia in the acute setting. Retrieved from <https://www.playlistforlife.org.uk/Handlers/Download.ashx?IDMF=60192388-affa-4c54-a6fd-8f83e45ce886>
- Särkämö, T., Tervaniemi, M., Laitinen, S., Numminen, A., Kurki, M., Julene, K., & Rantanen, P. (2018). Cognitive, Emotional, and Social Benefits of Regular Musical Activities in Early Dementia: Randomized Controlled Study, 54(4), 634–650. <http://doi.org/10.1093/geront/gnt100>
- Stelzer, J., Fritz, T. H., Che, G., Joie, R. La, & Turner, R. (2015). Why musical memory can be preserved in advanced Alzheimer ' s disease, 2438–2450. <http://doi.org/10.1093/aww148>
- Studio Meineck. (2016). Music box.
- Takai, M., Takahashi, M., Iwamitsu, Y., Ando, N., Okazai, S., Nakajima, K., ... Miyaoka, H. (2009). The experience of burnout among home caregivers of patients with dementia: Relations to depression and quality of life. *Archives of Gerontology and Geriatrics*, 49(1), 1–5.
- Tang, H. J., & Vezeau, T. (2010). The Use of Music Intervention in Healthcare Research : A Narrative Review of the Literature, 18(3). <http://doi.org/10.1097/JNR.0b013e3181efe1b1>
- Truzzi, A., Valente, L., Ulstein, I., Engelhardt, E., Laks, J., & Engedal, K. (2012). Burnout em cuidadores familiares de pacientes com demência. *Revista Brasileira de Psiquiatria*, 34(4), 405–412. <http://doi.org/10.1016/j.rbp.2012.02.006>
- Van der Steen, J., Smaling, H., Van Der Wouden, J., Bruinsma, M., Scholten, R., & Vink, A. (2018). Music-based therapeutic interventions for people with dementia (Review). *Cochrane Database of Systematic Reviews*, (7). <http://doi.org/10.1002/14651858.CD003477.pub4.www.cochranelibrary.com>
- Vanstone, A. D., Cuddy, L. L., Duffin, J. M., & Alexander, E. (2009). Exceptional Preservation of Memory for Tunes and Lyrics Case Studies of Amusia, Profound Deafness, and Alzheimer's Disease, 294, 291–294. <http://doi.org/10.1111/j.1749-6632.2009.04763.x>